



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,514	01/06/2004	Nathalie Mougin	012237-0307448	3349
909	7590	11/29/2007	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			KANTAMneni, SHOBHA	
P.O. BOX 10500			ART UNIT	PAPER NUMBER
MCLEAN, VA 22102			1617	
MAIL DATE		DELIVERY MODE		
11/29/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/751,514	MOUGIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Shobha Kantamneni	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 September 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 15 is/are withdrawn from consideration.
- 5) Claim(s) NONE is/are allowed.
- 6) Claim(s) 1-13, 16 and 17 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>01/06/2004</u>	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

This application is a DIV of 09/904,516, filed on 07/16/2001.

Claims 1-17 are pending.

***Election/Restrictions***

Claims 14-15 are withdrawn from consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions.

Applicant's election with traverse Group I, corresponding to claims 1-13 and 16-17, drawn to a water-soluble amphiphilic cationic polyurethane of formula (I), for prosecution in the above application in the reply filed on 09/07/2007 is herein acknowledged. Applicant's further elect polymer of Example 3, having the formula related in Example 2. Applicant's arguments have been considered, but not found persuasive. It is pointed out that each product, and method of using the product relates to a separate and distinct area of polymer technology. The search for all inventions would place an undue burden on the office in view of the diversity of polyurethanes, compositions, method of using the polyurethane, and the corresponding diversity in the field of search for each. Further, a search for the invention of the groups I-III would not be coextensive because a search indicating the method is novel or unobvious would not extend to a holding that the product itself is novel or unobvious; similarly, a search indicating that the product is known or would have been obvious would not extend to a holding that the method is known or would have been obvious. Therefore, restriction for examination purposes as indicated is proper, and made Final.

Claims 1-13, and 16-17 are examined herein insofar as they read on the elected invention and species.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10, 12-13, and 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of L, L' and L" being a group "derived from diisocyanate" render the metes and bound of the claims vague, because it is not clear to which diisocyanate derivatives is applicant referring? The specification fails to exemplify or clearly set forth what is meant by this term. Accordingly, the recitation is deemed to be indefinite.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samour et al. (US 5,807,957, PTO-892).

Samour et al. disclose cationic polyurethanes which read on instantly claimed polyurethanes. See abstract; Column 3, lines 16-44; column 7, lines 19-37. In formula

Art Unit: 1617

(I) of '957, when R is alkyl group of 1-30 carbon atoms, m=0, Y' =  $N^+R_3R_4X^-$  wherein R3 and R4 are alkyl group from 1 to 30 carbon atoms, R1, R2 = H, n = 1, n', n" are positive numbers, the polyurethanes obtained read on instant cationic polyurethanes. Samour et al. teach that isocyanates such as, dicyclohexylmethane-4,4'-diisocyanate, diols such as polyethylene glycol of different molecular weights are employed as monomers in the synthesis of polyurethanes therein. The molecular weights of the polyurethanes therein range from 1,00 to 25,000. See column 4, line 1-column 5, line 13. The compositions comprising the polyurethanes therein are substantive to skin and hair, and are useful for topical application to the skin or hair. See column 2, lines 49-52. It is taught that the properties such as hydrophilicity, lipophilicity, bonding with skin proteins, rigidity or flexibility etc. depend on monomers employed.

While the reference does not exemplify the exact species as claimed, the polymers taught by Samour et al. encompass the presently claimed species. It would have been obvious to a person of ordinary skill in the art at the time of invention to make the claimed species because 1) the polyurethanes of Samour et al. broadly cover and encompass the instant claimed species, and further 2) Samour et al. teaches the importance of various properties such as hydrophilicity, lipophilicity, bonding with skin proteins, rigidity or flexibility etc. in selecting the various subunits i.e monomers of the polymer. One of ordinary skill in the art at the time the invention was made would have been motivated to obtain the instant claimed species by modifying the polymers of Samour et al. by selecting various subunits as taught by Samour et al. in order to

Art Unit: 1617

optimize the hydrophobic/hydrophilic, flexibility/rigidity balance as taught by Samour et al. to benefit from optimized polymers in using for skin care application.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmons et al. (US 4,079,028, PTO-1449), in view of Munzmay et al. (US 5,153,297, PTO-892).

The elected inventions read on cosmetic composition comprising a cationic polyurethane produced by the reaction of at least two diisocyanate and at least one polyethylene glycol, wherein the cationic ammonium groups are with a hydrophobic groups and are at the terminals of the polyurethane.

Emmons et al. teach polyurethane thickeners having at least two terminal hydrophobic groups, water insoluble organic polyisocyanate, polyether polyol segments. See column 2, lines 44-68; column 4, lines 50-66. The polyurethanes are prepared by reacting a water soluble polyether polyol, isocyanate, one monofunctional active hydrogen compound which is a compound having only one group which is reactive with isocyanate. The monofunctional active hydrogen compound is a capping compound i.e reacts with the terminal functional groups and is hydrophobic group. See column 3,

Art Unit: 1617

lines 4-9, lines 31-48, column 4, lines 1-5; See column 6, lines 51-64. The hydrophobe terminal group includes hydrocarbon residues of hydroxyl, amino reactants. The reacts employed are polyethylene glycol of 4,000-20,000 molecular weight, 4,4'-methylenebis(isocyanatocyclohexane), and fatty alcohols such as stearyl alcohol, or alkyl amines. See column 8, lines 33-35, lines 59-60; column 9, line 46-column 10, line 19. The thickeners therein are useful in cosmetic, medicinal, and as textile finishes, bonding agents for both woven and non-woven fabrics. See column 15, lines 6-8.

Emmons et al. do not teach the terminal cationic ammonium groups as in the instant claimed species.

However, Munzmay et al. teaches that it is known in the art to employ cationic groups at the terminal position of polyurethane. See, particularly, col. 6, line 44 to col. 7, line 2. It is taught that the terminal cationic groups are obtained by employing hydroxyl and amine components containing tertiary nitrogen such as N,N'-dimethyl ethanolamine, and quaternizing it with quaternizing agents. Munzmay also teaches that the polyurethanes therein are useful in treating woven and nonwoven fabrics. See column 9, lines 18-23.

Therefore, it would have been *prima facie* obvious to a person of ordinary skill in the art, at the time the claimed invention was made, to make a polyurethane as taught by Emmons et al. with cationic ammonium groups at the terminals of the polyurethane. A person of ordinary skill in the art would have been motivated to make a polyurethane as taught by Emmons et al. with cationic ammonium groups at the terminals of the polyurethane because making cationic polyurethane by quaternizing terminal groups is

Art Unit: 1617

a known method in the art. Absent evidence to the contrary, such quaternizing method is seen as an obvious engineering choice to one of ordinary skill in the art.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-13, 16-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 18-19, 23-24, 30, 32-33, of US Application No. 09/904,516. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter embraced in the instant claims overlaps with the stated claims of US Application No. 09/904,516. It would have been obvious to a person of ordinary skill in the art at the time of invention to the instant particular polyurethane, since the polyurethanes of '516 of formula (I) encompass the instant particular polyurethane, and are useful in cosmetics.

Art Unit: 1617

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-13, 16-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 41-68 of US Application No. 10/432,038. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter embraced in the instant claims is encompassed in the stated claims of US Application No. 10/432,038. It would have been obvious to a person of ordinary skill in the art at the time of invention to the instant particular polyurethane, since the polyurethanes of '038 of formula (I) encompass the instant particular polyurethane, and are useful in cosmetics.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-13, 16-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 48-50, 52-105, 107-112, 114-117, 119-120 of US Application No. 10/415,952. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter embraced in the instant claims is encompassed in the stated claims of US Application No. '952. It would have been obvious to a person of ordinary skill in the art at the time of invention to the instant particular polyurethane, since the

Art Unit: 1617

polyurethanes of '952 of formula (I) encompass the instant particular polyurethane, and are useful in treating hair.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-13, 16-17 are prejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 44 of US Patent No. 6,602,303. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter embraced in the instant claims is encompassed in the stated claims of US Patent No. 6,602,303. It would have been obvious to a person of ordinary skill in the art at the time of invention to the instant particular polyurethane, since the polyurethanes of '303 of formula (I) encompass the instant particular polyurethane, and are useful in treating hair.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Tuesday-Thursday, 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, Ph.D can be reached on 571-272-0629. The fax

Art Unit: 1617

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni, Ph.D  
Patent Examiner  
Art Unit : 1617



SREENI PADMANABHAN  
SUPERVISORY PATENT EXAMINER